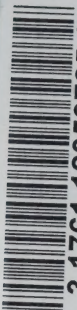


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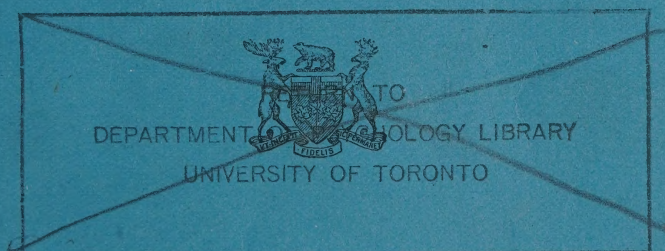
Vocational Opportunities

IN THE
INDUSTRIES OF ONTARIO

—
A SURVEY
—

BULLETIN NO. 1

General Introduction



Minister: HON. W. R. ROLLO

Deputy Minister: W. A. RIDDELL, Ph.D.

Parliament Buildings—TORONTO—15 Queen's Park

1920

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DEPARTMENT OF LABOUR

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UNIVERSITY OF TORONTO

Minister: HON. W. R. ROLLO

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Parliament Buildings—TORONTO—15 Queen's Park

1920



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PREFACE.

The present bulletin is one of a series arising out of investigations carried on by the Trades and Labour Branch, now the Department of Labour, to obtain definite information regarding the occupational opportunities in the industries of Ontario for boys and girls. It is hoped in this way to provide a basis of knowledge for intelligent guidance to the large number of boys and girls who year by year leave school to join our vast industrial army.

The need for such a survey of the industries of Ontario became apparent following the establishment of a system of Employment Bureaus by the Province, and later received hearty endorsement from the Dominion Council of Girl Guides, the Dominion Council of Women and the Home and School Council. It was pointed out by these organizations that large numbers of girls left school and either drifted about aimlessly or entered occupations for which they were quite unsuited, and consequently they became bewildered, inefficient, low wage workers. This it was felt was due largely to lack of knowledge on the part of parents, teachers and the girls themselves of the occupations open to girls and the training and other qualifications necessary to success. These organizations urged, therefore, first: that data should be secured regarding (a) desirable trades, occupations and professions for girls, (b) the temperament and moral qualities necessary for success in each of these, (c) the education and preparation necessary for entrance into and advancement in these, (d) the approximate cost in time and money such preparation involves, (e) the possibilities for advancement and remuneration to be expected in each; second: that there should be close co-operation with the Department of Education in passing on this information to teachers and parents by means of bulletins and lectures given by experts to teachers in training throughout the Province in order that they would be better qualified to act as vocational guides to their pupils leaving school; and third: that there should be organized a separate section of the Government Employment Service devoted to the placing of girls in suitable employment.

The value of some form of assistance to young persons in choosing their life work is generally admitted. The growing complexity of our industrial organization has not only multiplied the opportunities for employment, but also has increased a hundredfold the difficulties of obtaining accurate information with regard to them. Unfortunately the avenues leading to "blind alley jobs" never were so numerous or so crowded as they are to-day. Few who travel them realize whither they lead. Only a relatively small number of our boys and girls have any means of knowing. This is all the more to be deplored when it is considered the important bearing which the choice of an occupation has upon the life of the individual and his relation to the state.

"For the great masses of men life is organized around work." The whole life of the individual, the home and the community are at stake in the choice of an occupation. If this is settled unwisely or not settled at all, as is too frequently the case, the state must pay in decreased efficiency, increased pauperism and bad citizenship.

It was with these facts in mind that the present survey was authorized early in 1918 by the Honourable Finlay G. Macdormid, the late Minister of Public Works. Preliminary work, including the preparation of questionnaires, investiga-

tion of sources of information, and the interviewing of employers and employees was commenced almost immediately. The actual field work, however, of the investigation was not completed till early in 1919.

Every effort was made to obtain a true picture of the vocational opportunities in the different industries. The employees, employers and others were consulted in twenty-three different industrial centres, stretching from Ottawa on the East, to Windsor on the West. As a further check upon our information official sources of information, both Federal and Provincial, were gone into carefully. The Dominion Statistician and Controller of the Census placed at our disposal data which has been most valuable in supplementing our own information with regard to the regularity of employment, salaries and wages, and the relative proportion of officers, superintendents and managers in the various industries. Not only was much of this material valuable as supplementing what we had obtained from our own investigations, but also in corroborating it. The method followed in collecting our material was obtained by having access to the payrolls and other records of the firms as well as through personal interviews with managers and employees.

The authority provided under the Department of Labour Act empowering the Deputy Minister to "require from employers, workmen and other persons such information concerning rates of wages, hours of work, regularity of employment and other matters as he may deem necessary for the proper carrying out of this Act or any of the Acts administered by the Department" made it possible for the investigators to have access to the original sources of such information, namely, payrolls and other records in the various plants visited.

The number of plants which were covered in this way was relatively small as compared with the thousands covered by the Postal Census of Manufactures issued by the Dominion Government. What it lacks, however, in numbers obtained through the schedule method of the Postal Census is compensated for by the accuracy obtainable through having access to the original records.

Few firms have their statistics in a form that is readily available for the investigator. In the case of piece workers, frequently the hours were not recorded on the wage sheets. Few firms were found who distinguished in their records between juvenile and adult workers, and the difficulty of obtaining this information within the scope of the investigation has made it practically impossible to give anything more than a mere approximation of the relative number of these workers. Information of a more general character was obtained in personal interviews. With few exceptions the utmost courtesy was shown.

This bulletin constitutes a general introduction to the whole survey, to which are appended statistical tables, containing wages obtained in our own investigation, and statistics based on material supplied by the Dominion Statistician. Bulletins dealing with the following industries are also included in the series: biscuits and confectionery, boots and shoes, department and notion stores, dressmaking and millinery, foundries and machine shop products, furniture and upholstery, garments, harness and saddlery, printing and allied trades, textiles.

The survey, including the field work, tabulation, planning and preparation of the report, was supervised by Miss E. C. Weaver, B.A., although from the beginning it has been under the personal direction of the Deputy Minister of Labour.

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GENERAL INTRODUCTION

SECTION I

Vocational guidance is something very much broader than telling a boy what job he should choose. It goes deeper and reaches farther. It is described in the report of a commission of the National Education Association as follows: "Vocational guidance should be a continuous process designed to help the individual to choose, to plan his preparation for, to enter upon, and to make progress in an occupation." That is, it includes education, the development of initiative in the individual, assistance in getting in touch with work (both theoretical by the giving of information, and practical by placement) and assistance and encouragement if required after work has been commenced.

The present study deals with one side of this wide field. Its object is to supply as a basis of study rather than in dogmatic form, information with regard to certain industries and occupations. These have been gathered from first hand sources. It is hoped that these reports will stimulate interest in the study of occupations on the part of youths and young girls, parents, teachers and others interested in the welfare of young people.

This is necessary at the present day as it never was before. There are two things which have forced the present emphasis which is being placed on vocational guidance. One is that a systematic research into occupations has revealed the numbers of young people who drift into blind alley occupations or those for which they are wholly unsuited and sometimes stay there for life; the other is the increasing specialization of all jobs, which by multiplying opportunities, makes it necessary to have some centre of information concerning their variety and nature.

In regard to the first point, the numbers of those who drift into occupations or who choose them only with a view to immediate returns or the convenience of the moment, is shown by the following table, which has been compiled from the answers of ninety-four workers employed in Ontario.

Table 1.—Reasons for Original Choice of Work, representing 94 Answers.

Liked wages	24.5%
" trade	23.4%
Relatives employed	10.6%
Nearness of establishment	9.6%
On account of chances of promotion	7.4%
Friends employed	3.2%
Liked hours	1.1%
Other reasons	20.2%

Boys are lured by a high wage into industries where there is little opportunity of promotion. They are seldom willing to take less money later, in order to learn a trade or otherwise to get in line for advancement. When the time comes that they would like to establish homes of their own, it is only then that they begin to realize the situation and to discover how difficult it is to improve it.

"It just happened to be open at the time," or "I did not know of anything else," are typical replies grouped under "other reasons." Men and women with a sense of responsibility are working year after year at occupations, for which

their natural endowments do not fit them, as in the case of a good type of woman, forty-two years of age, who had entered one of the sewing trades at twenty. By conscientious application she made a success of her work, as she would have done in almost any line of work, and is getting a fair wage, but has not the natural love for sewing, which is undoubtedly so strong with some women. Fifteen years ago she transferred from one branch of the trade to another, and has remained in the latter ever since. She has never liked her work, but she has responsibilities which do not permit her to start in a new line. Such a step would mean cutting her wages almost in half, as she would then lose the benefit of her experience.

The result of lack of guidance in the case of another type of worker, was well illustrated by the work history of a woman of twenty-five years, who was pleasing in manner, independent and cheerful. She entered domestic service when she was fourteen years of age, but in two successive positions was kept up late at night on account of company in the home. From that time she commenced a round of factory and tea room work. During a brief interview she gave her experience in pressing, operating, confectionery and munitions. The periods of employment varied from two weeks to one year. Previous to the interview she had returned to house work, as she said, "It is the only way for a working girl to make money." In this line she had held several positions during the last few months—none of which suited her. The loss of money through waste of time was suggested, but she said cheerfully she never lost much time between positions. Her good qualities and ability rightly applied would have led to advancement, but as it was she had gained little with the years, and on account of her record would hardly obtain the best type of work.

The reasons for leaving previous work in the case of fifty-seven employees as given below are also suggestive.

Table 2—Reasons for Leaving Previous Position.

Nature of work	5
Hours	4
Wages	15
Difficulty with employer	2
" " employees	1
To gain advancement	8
On account of moving	5
Firms went out of business	4
Other reasons	13

In regard to the second point, it is easy to see how difficult increasing specialization has made the choice of an occupation, and how necessary it is that information concerning occupations should be readily available. There are, of course, various methods of obtaining this information. Much may be learned from acquaintances and friends engaged in various lines. Talks may be given by those in intimate touch with the occupations to the older pupils in school. Visits of inspection may be made to various manufacturing plants and commercial establishments, as also to model farms and the scene of other occupations. Where possible experimentation or "sampling," if under guidance, is very helpful. In Ontario a considerable amount of experimentation with regard to work is being accomplished by young people who obtain work on Saturdays or for the holidays. This is especially true of the large centres. For those whose bent is

along the lines of work taken up in the Technical¹ Schools, a splendid opportunity is arranged for practical experience of various lines of skilled work—the course in the first two years being kept particularly broad.

When a pupil has chosen his occupation along broad lines, it is most essential that he should benefit by vocational counsel in the matter of preparation. Guidance cannot be entirely left to the schools as it is impossible for the average teacher to make a thorough study of occupations and attend to the duties of the school at the same time.

This work is therefore being done more and more by bureaus for placement. These bureaus make their advice of double value by the investigations which they pursue. In the case of young people particularly every call for help, unless the employer is previously known, is investigated. This is a great safeguard to both boys and girls whose parents have in many cases little time or opportunity to find out if the circumstances of the employment are satisfactory.

In Great Britain employment supervision for juveniles is further developed than in any other country. The Juvenile departments of the British Labour Exchanges have special Advisory Committees. The duty of such a committee is "to give advice with regard to the management of any Labour Exchange in its district in relation to juvenile applicants for employment." These advisory committees seek the help of voluntary organizations in follow-up work. That the child may be placed in the occupation for which he is best fitted, his career is watched carefully for the first few years after leaving school. If he gets into a "blind alley" occupation an effort is made to get him out of it. Juveniles are usually discouraged from leaving one employment for another, and every effort is made to induce them to fit themselves for higher positions in their own line. In 1916 it was stated:—

"The development of the Juvenile Department has been such, that in the United Kingdom, 423 Labour Exchanges, which deal with the placing of children and young persons, have been established by the Board of Trade. In forty-four districts the Board of Trade has established Advisory Committees for juvenile employment. Besides these, there are in London nineteen, and in Surrey fifteen Local Advisory Committees acting under the supervision of the County Juvenile Advisory Committees. In fifty-eight districts local education authorities have established committees. Every effort is made to find for each child the most suitable and permanent employment."²

This remarkable expansion in employment supervision for juveniles is a fair indication of the value of this work in the public estimation in Great Britain. Its importance is also rapidly gaining recognition in the United States. Here it is frequently done in connection with the schools, and already at least one large city has appointed a school officer whose title is "Employment Supervisor."

¹ If not already in existence, classes for technical education in any line will be organized, if there is a sufficient demand by people who are capable of benefiting by the instruction; and if a satisfactory instructor can be found. Any person desiring information should apply to the Principal of the nearest local school. Day classes were held in 1918 at Brantford (Industrial School), Chatham (Industrial School), Haileybury (Mining Department of the High School), Hamilton (Technical and Art School), Kingston (School of Navigation), London (Industrial and Art School), Ottawa (Technical School), Sault Ste. Marie (Technical Department of the High School), Sudbury (Mining Department of the High School), Toronto (Technical and Art School), Windsor (Industrial School).

² Report of the Ontario Commission on Unemployment, 1916.

In Ontario the need for work of this kind has been recognized, and is being urged upon the Government by those who are interested in the educational and industrial welfare of the community. This may be seen from the following letter and resolution which were received by the Department of Labour in February, 1919:—

February 8, 1919.

DEAR DR. RIDDELL,—

At a meeting of the Education, Recreation and Industry Section of the Child Welfare Council held on January 29th, I was instructed to communicate with you concerning the information the Government Employment Bureau is preparing regarding opportunities for boys and girls.

Enclosed you will find a list of organizations to which we would like to have a copy of this work sent when you have completed it. There is also a motion stating that in the opinion of the Education, Recreation and Industry Section of the Child Welfare Council it would be of great advantage if the work of the Government Employment Bureau were extended to include the needs of juveniles leaving school and entering employment for the first time. This I was also asked to include in my communication to you.

Yours truly,

F. N. STAPLEFORD.

MINUTES OF THE MEETING OF THE EDUCATION, RECREATION AND INDUSTRY
SECTION, JANUARY 29, 1919.

Moved by Mr. Stapleford, seconded by Mr. Burke, that in the opinion of the Education, Recreation and Industry Section of the Child Welfare Council, it would be a great advantage if the work of the Government Employment Bureau was extended to include the needs of the juvenile leaving school and entering employment for the first time, and that the secretary be instructed to write Dr. Riddell, Superintendent of the Labour Bureau to this effect. This was approved.

It was recommended that there should be a vocational committee in every school:

- (a) To keep record of the vocational leanings of each child.
- (b) To advise the child and its parents with regard to the vocation for which the child is best fitted.
- (c) To co-operate with the Juvenile Employment Bureau in securing suitable employment for the child.
- (d) To see that every child before leaving school is in possession of a birth certificate.

A director of Technical Education has recently been appointed in the Department of Labour in Ottawa. With a view to the extension of technical education in Ontario, two members were, in the early months of 1919, appointed to his staff by the Minister of Education for Ontario. Their duty is defined as follows: "To study the general technical educational requirements of the employees in important industries and trades and to make constructive recommendations

regarding the organization of education to provide better trained workers for these trades."¹ In February, 1920, an organizer was appointed for the Industrial and Technical Education Branch of the Department of Education.

With these officers working in connection with the schools and the Government Bureaus for Juvenile placing, a full system of advice and assistance for the young worker will be in force.

In addition to the vocational information which may be supplied by a Vocational Guidance bureau before sending the worker out, it gives those who are employed a chance to obtain reliable information as to opportunities and conditions in other occupations. If the employment stands reasonably well the bureau acts as a safety valve, and the young worker is encouraged to continue in his present work until the period of restlessness has passed. Such a bureau can also often greatly assist people in readjustment who have made a mistake in their original choice of work, as in the case of a boy of about nineteen who visited an American bureau. He had been in office work for several years, but saw no prospect of advancement, and wished to learn a trade. The change would normally have entailed such a great loss in the immediate wage that it would have been impossible. The Manager of the Bureau was in a position to communicate directly with the manager of a suitable firm, who would not have been accessible to the boy. When the situation was explained to him, he compromised on the wage with the boy, who was satisfied temporarily to receive a slightly lower wage than he had been getting in order to improve his chances for the future.

In many cases the parents rather than the children are responsible for the determination to obtain the highest available initial wage, regardless of preparation for the future. In one American city classes in Vocational Guidance were opened for parents. Much of the aimless drifting from job to job would be overcome if parents interested themselves in the occupation of their children. A number of Ontario employers, recognizing this fact, make a point of obtaining help through parents.

Perhaps the most immediate need in the line of Vocational Guidance is the obtaining of vocational information. This forms the subject matter of Section 11, and the main body of the report.

¹ Labour Gazette, March, 1919.

SECTION II

As the ideal of Vocational Education is to help the young person to make his or her own choice, the object of the present work is to supply one necessary factor in determining that choice—vocational information.

From experience in placement work and in investigation, it has been found that there are several considerations which are most important in choosing an occupation. They are indicated briefly below.

IMPORTANT CONSIDERATIONS IN SELECTING WORK

IS THE WORK OF SUCH A KIND AS TO RENDER THE WORKER INDEPENDENT LATER IN LIFE?

Everyone who has been in employment work will testify to the importance of this consideration. An example of this is found in the situation in 1917.

Women were scarce, yet it was difficult to place older women in lines for which previous experience had not prepared them. Many women were compelled to take a poor class of work, under disagreeable conditions, at a low wage, and with little prospect of an increase. On the other hand employers were very ready to interview women who had had satisfactory experience earlier in life, as in the case of paper box making, chocolate dipping, certain kinds of power machine operating and textile work. House workers and capable office help were, of course, also at a premium.

The period of usefulness in work is an important consideration from the point of view of future happiness as well as from that of self support and reasonable total returns for the bestowal of the best years of a life.

Industries in which the proportion of young people are particularly large are liable to furnish a poor basis of experience, on which to depend for work later in life. Work in some of these lines may, however, be used as a stepping stone during preparation for better work. The best type of employers in this kind of work are frank with regard to its limitations, and try to assist employees who have outgrown the work to more suitable employment.

WILL THE OCCUPATION EVENTUALLY SUPPLY ADEQUATE RETURNS?

In a society organized on lines in which all normal adult workers received a living wage for honest work, the question of wage would fall more into the background in the choice of work, but up to the point of reasonable comfort, it is of vital importance, as affecting all the relations of life. There is, however, a tendency to consider the initial wage unduly. This is a mistake, as even to-day, statistics show that the skilled trades are often paid a comparatively low initial wage, but have in the main a larger proportion of high paid workers:¹ this does not of course hold good in certain cases where machines have practically supplanted former methods of production.

Office workers² in manufacturing establishments have a smaller proportion of high paid³ men than are found in factory work in some of the industries requir-

¹ For general conclusions with regard to an industry, and for statistical basis for conclusions, see the report on the industry and appendix.

² When referring to statistics in this report, the term "office worker" means office worker in manufacturing plants from which information was collected during the present investigation.

³ This statement is based on a comparison of individual payments, which may have been weekly, monthly, bi-monthly, etc., reduced to a common scale.

ing very skilled men. In the matter of weekly¹ wage among men, office work in manufacturing plants ranks above office work in department stores until workers receiving over \$20 a week are considered, when there is an advantage in favour of those in department stores.

The weekly wages¹ of women engaged in the manufacture of suits, cloaks and dresses ranked uniformly well in 1918 compared with those in other lines of work, including office in manufacturing establishments. Office work ranks fairly well throughout, but the proportion of women receiving over \$20 a week is higher in dressmaking, millinery, boots and shoes, and suits and cloaks than in office. More women also receive \$25 a week and over in dressmaking, millinery, and suits, cloaks and dresses than in office.

Effect of Regularity on Wages.

In any calculation of wages, however, losses due to seasons, fashions, materials, and delays on account of dependence on other processes, as also loss of pay for holidays, where this occurs, must be taken into consideration. Wages should therefore be correspondingly higher when work is irregular, and holidays and vacations are entirely at the expense of the employee. The relation of the average number employed to the highest number, gives some idea of the regularity of the work (see appendix), but it must be remembered that individuals are often forced by the seasonal nature of work to look for other employment, and lose time during the change. It is seldom the policy to give notice to factory workers.

Effect of Individuality on Salary.

It is true that for the most part the skilled person, the most experienced, or the most adaptable, has the advantage over the unskilled or less capable in greater regularity of work. The best worker is usually kept on the longest, sometimes through the slack season, especially if capable of doing a variety of work. A skilled or experienced worker may attain an executive position as that of foreman or forewoman, when the wage is considerably higher, as may be seen from a comparison of the wages of all factory workers, other than executives, Table 3, with those received by foremen and forewomen, Tables 4 and 5.

Table 3.—All Factory Workers Other than Executives.

Weekly Wage	Number		Cumulative per cent.	
	Male (11,388)	Female (7,863)	Male	Female
Under \$5.....	41	203	.4	2.6
\$ 5 - \$ 6 ²	51	251	.8	5.8
6 - 7.....	147	458	2.1	11.7
7 - 8.....	151	630	3.4	19.7
8 - 9.....	206	823	5.2	30.1
9 - 10.....	214	787	7.1	40.1
10 - 12.....	457	1,674	11.1	61.4
12 - 15.....	976	2,146	19.7	88.7
15 - 20.....	3,057	759	46.5	98.3
20 - 25.....	3,111	88	73.8	99.4
25 - 30.....	1,743	30	89.2	99.8
30 - 35.....	745	7	95.7	99.9
35 and over.....	489	7	100.	100.

¹ The expression "weekly wage" is used in this report to signify that the comparison is made as described on page 6, footnote 3, in contra-distinction to that on a yearly basis.

² In the weekly wage, the class, i.e., \$5-\$6, etc., includes the first figure and is up to but does not include the second.

Table 4—Salaries of 582 Foremen, Collected from 118 Firms.

Under \$20	30
\$20-\$30	279
Over \$30	273

In the case of foremen the range was from \$12 a week to over \$3,000 a year, but the largest group received between \$30 and \$35 a week. More than half of those receiving between \$20 and \$30 were paid \$25 or over.

Table 5—Salaries of 71 Forewomen, as Distributed in 36 Firms.

Under \$12	12
\$12-\$15	26
\$15-\$20	23
Over \$20	10

The largest group of forewomen received between \$12 and \$15, but 46 per cent. received over \$15. Foremen are sometimes paid on a salary basis, though frequently by the week.

The range of salaries for superintendents and managers was from \$20 a week to over \$6,000 a year. No doubt the work of the lower paid superintendents was practically equivalent to that of foremen. The average salaries of officers, superintendents, and managers in the different industries is given for 1917 in the appendix.

Bonuses. Employers in 59.5 per cent. of the firms gave some form of bonus or present to those in at least some occupations. These varied from a definite gift of one share of stock after one year's service continued every year, to an indefinite bonus depending on returns and faithfulness of the employees.

Comparison on Yearly Basis. In the matter of regularity of work and payment for vacations and allowances during sickness, office workers, and some store workers have on the whole the advantage over those who work in the factory. This, of course, affects the yearly averages. Reference to Appendix C will show that in most industries there listed the clerks, stenographers, and salesmen¹ are paid somewhat more on the average in the year than the wage earners², and in some industries much more, but that in certain industries, where the productive work is very heavy or requires a considerable amount of skill, as in steel furnaces and rolling mills, the yearly average is decidedly higher among the wage earners, in spite of the fact that about 75 per cent. of the office workers are male. In hats, caps and furs, though the variation in the proportion of men and women in the factory and office differs only by about one per cent., the average in the factory is higher than in the office. In jewelry and repairs the yearly average is higher among wage earners, but in this case the proportion of women in the office is considerably greater than in the factory.

¹ The inclusion of salesmen in this group means the addition of comparatively well paid employees to the group of clerical workers, and so may give an impression of a somewhat higher comparative yearly average than is just.

² As a matter of convenience, the expression wage earner is used following the divisions of the Dominion Office of Census and Statistics.

Cost of Rearing a Child.

In answering the question of an adequate return consideration should be given to the cost of providing for a boy or girl during the years of growth and education. Accurate information on this subject is seldom available, but the conclusion, quoted below, reached by the well-known vocationalist, E. W. Weaver, in 1909, which is doubtless much below the present cost, is of value.

"So many items enter into the make-up of the profitable wage-earner that it is difficult to determine the value of any of these items, and for this reason the record of a single family which was supplied to me by one of the sons is interesting.

The father was a gray-haired mechanic, who had landed in this country at the age of fifteen, and began work in a shop at two dollars a week. He learned to speak English and later learned to write the language. He also learned a trade. His wife was a careful housekeeper, and from her account books a statement of the cost of rearing their four sons and of their earnings was made for me. It seemed evident that it had cost the family, with the most careful management, over two thousand dollars to support a boy and to keep him at school until he reached fourteen. The cost at present would be very much higher!"¹

Cost of Training.

The cost of support during subsequent training, and charges, if any, for instruction must also be taken into consideration. In the lines of work particularly dealt with in the present report, however, much of the instruction can be obtained free of charge, as in the full courses at Technical² Schools, and the first two years at the High School of Commerce³. The cost of tuition in a day course at a private business college for 6 months usually runs from \$60 to \$100.⁴ The actual cost of training in the case of a system of apprenticeship can only be dealt with definitely in a few industries, but could be approximately obtained in any individual case by ascertaining from the nearest Government Employment Bureau, the market value of wages for a boy or a girl, and comparing this with the wages offered during the various years of apprenticeship. Where apprentices are taken, there is usually a more or less definite scale of wages for the various years.

The returns should undoubtedly be sufficient to keep the worker and dependents in reasonable comfort, and to provide for sickness, unemployment, and old age, unless these are otherwise taken care of.

WHAT NATURAL AND ACQUIRED QUALIFICATIONS ARE NEEDED IN THE DIFFERENT OCCUPATIONS?

There are certain primary qualifications which are necessary to success in any occupation. In one factory the qualities which were given as necessary in order to attain the position of superintendent were reliability, ambition, and adaptability. The weight of the whole investigation has gone to prove that there is little hope of attaining the most responsible positions without these qualities, and to them may be added the power of constructive thought.

¹ Choosing a Career, a Handbook for Boys.

² The full time industrial and art courses, consisting of a three years' course for girls and a four years' course for boys, are free at the Technical School. In the matriculation course the first year is free, the second year costs \$9, the third \$15, and the fourth \$21. Non-resident pupils are required to pay an extra \$5 a term.

³ The third and fourth years cost \$15 each. Non-resident pupils are charged an additional fee.

⁴ A few colleges offer complete courses varying from one to three months at a lower rate. In one school the average time required to complete a commercial course or a course in stenography and type-writing was given as about 7 months. Estimates of the cost of books and stationery ranged from \$2 to \$11. These figures were obtained just before going to print.

But as well as these characteristics, there are qualifications which are more valuable in certain lines of work than in others, and the possession of which gives to the worker a distinct advantage. A sense of colour, for instance, is valuable in such different occupations as dyeing, tempering metals and chocolate dipping; keen eyesight is required of machinists, toolmakers and draftsmen; the sense of taste and smell must be highly developed in those who are responsible for the compounds in confectionery and other food products, and the sense of touch in those who are engaged in such an occupation as the sorting of wools. In some occupations physical strength is not an important consideration, while in others it is essential. For instance, a rugged constitution is required by moulders, boiler-makers, rollers, and many other metal workers. Quickness is essential in many operations in the confectionery industry and in the manufacture of small parts in electrical supplies, but nowhere, not even in munition factories, has the writer had such a sense of speed as in a room of power sewing machine operators, both those working on garments and those working on boots and shoes.

These examples of the differing requirements in different lines of work show how valuable is a knowledge of the qualifications required before a definite occupation is chosen, for with such a knowledge the worker may choose an occupation in which some quality which he possesses is especially valuable. For detailed information with regard to each occupation, the individual reports should be consulted.

Training and Education. "Factories do not teach trades any more." This statement made by one factory manager is typical of all industries which call for a high degree of skill.

"Employers do not care to pay their skilled men to teach young people, who are liable to leave as soon as they have gained a little experience, in order to try to get higher wages at another factory. This employer was a staunch supporter of the local technical school."

In investigating methods of training in factories, a nominal or actual apprenticeship system was found in 26.9 per cent. of the firms. In 10 per cent. of the others the work of teaching was definitely assigned to the foreman. In the remaining factories, for the most part new employees were at the beginning shown what to do by experienced workers, and left to become proficient in routine work. Some factories gave ambitious workers the privilege of practising at noon, as was the case among chocolate dippers in one confectionery factory visited. In boot and shoe factories instructors are sometimes brought from a machinery company to give instruction to new employees, who begin on coarse work. If employees are required for a better class of work it is said that an attempt is usually made to get them from other factories.

Many of the ambitious workers to-day have picked up their knowledge by observing those engaged near by in occupations, which they wish to learn, and practising the knowledge thus obtained on the earliest possible occasion. Some ask their employers for a trial at the desired work, others apply for the work at another factory, sometimes as experienced. The latter class frequently get discharged several times as inefficient, but after a while become fairly experienced. The method of picking up experience by wandering from factory to factory is so well recognized in certain industries that the trades which are learned in this way are known as the "tramp trades." This is the case with certain occupations in biscuits and confectionery. There can be little doubt that this method of learning a trade greatly increases the labour turnover.

Many of the expert clothing designers, tailors, dyers, and textile workers have in the past come from Europe and the United States.

In some of the higher types of employment those who have made a success attribute a considerable part of it to reading and keeping abreast of the times in their particular lines.

Because of the wonderful success in various lines of a comparatively few individuals, with little education and no special training, the idea is somewhat prevalent, as expressed by a young draftsman, that the long apprenticeship, required in some lines to obtain special knowledge, is liable to kill initiative and limit the worker. The same young man, however, added a little later, "But if you apply for work and are asked what you can do, and have had no special training or experience, you are apt to be put down as a labourer."

There is no doubt that the average person of little ambition prefers to do what he can do well, whether the proficiency has been gained by training or experience rather than exert himself to learn a new thing, and probably lose in wage by the change. Up to the point of becoming thoroughly proficient at one thing this is wise. As Prof. Barker, of Leeds University, remarked, "A man or woman is likely to gain greater satisfaction from his work if he does one thing well rather than a lot of things indifferently," but it is inadvisable that any person should feel himself bound to one particular job with no resource outside.

One of the chief aims of modern education is avowedly to make people adaptable. This is illustrated by the following quotation from the report of the Toronto High School of Commerce.

"It is not intended that these courses shall turn out thoroughly trained business men and women, but rather students so trained that they may readily adapt themselves to, and master the details of, any business with which they may become connected."

The right sort of training gives the background of knowledge, which fits the young person for advancement when the opportunity arrives after actual experience in industry, and in the methods of the individual firm. It cannot be over emphasized here that graduates of technical schools and colleges and universities are in most lines not fully trained when they graduate. Discredit is continually brought on all these institutions by pupils who go out and "think they know it all" before they have had experience in employment. Wise graduates should add experience to training before they attempt to push ahead. They will then be in a position to advance rapidly.

WHAT ARE THE OPPORTUNITIES FOR PROMOTION OR EVENTUAL PROPRIETORSHIP?

In a few kinds of work there is a fairly definite line of promotion as in the case of millinery, from apprenticeship to the work of preparer or improver, and later, if the ability is sufficient, to that of trimmer or designer; but for a large number of factory workers the only promotion may be increased wage with increased efficiency. When the pay is on a piece rate basis, the wage adjusts itself more or less according to efficiency. In some of the skilled trades where the apprenticeship is served, there is a definite increase from year to year, and at the end of the training the man ranks as a journeyman with the right of journeyman's pay. In Ontario for the most part, in industries where skill is needed, the men and women who attain to positions as foremen and forewomen are those with an all-round knowledge of the work. In many firms, the investigators were told that managers

would not know where to look for such all-round men as were required for the positions if they lost their present men. It would seem that in spite of all that has been done by education since the report was written, that the statement in the report of the Royal Commission on Industrial Training and Technical Education, 1913, still holds good—"One of the most serious barriers to the development of Canadian industry to-day is scarcity of skilled workers." Where little skill is needed in the workers, the foremen and forewomen are chiefly chosen for their ability to handle people. This is, of course, a very important factor also in industries where greater skill is required.

The superintendent of a factory is usually what is termed a **practical man** with actual experience of the factory work. In the case of the engineering industries as, for instance, boiler-making, the making of machinery, agricultural implements, and electrical supplies, the superintendent might be a graduate of a university or a technical school. But the previous experience of superintendents whose histories were known was various; one had been in the shipping office, and an assistant superintendent was formerly a chaser-up. Men from the office, however, were seldom promoted to the position of superintendent. The policy of promotion from the factory to the office, however, was found in several of the most up-to-date firms. One manager said, "I find the policy of promoting likely boys and girls from the factory to the office keeps the employees on the alert." Another manager of a large firm said, "When boys first come here they want to get into the office, but they haven't been here long before they see that they must get into the factory if they wish to advance." It would seem that these firms are typical of the method of promotion which will in all probability be more and more common in the future. In a large proportion of the firms visited, however, there was not this relation between factory and office, and the boy who went into the office in some junior position, if observant, laid the basis of knowledge for the position of manager. Many managers reported that they began as messengers. The chances of becoming manager or superintendent, or of gaining some similar position are undoubtedly small, especially in some of the industries where huge numbers of people are employed, the proportion in each industry can be seen by reference to Appendix D. For department store work see Bulletin 2, page 3.

Proprietorship. An important point in the choice of an occupation with some dispositions is the possibility of eventually proprietorship.

On account of his love for machinery, a boy of 16 years of age left the farm in order to learn the machinist's trade. He made a success of his work, but as a man of experience looks back with regret to his early chances to remain on the farm. He said, "If you learn a trade you are nothing but a slave to a master all your life." Many of his old friends and neighbours are now well-to-do men, while he has had "little more than his living."

On the other hand some of those who had been over hasty in getting into business for themselves regretted their previous good positions as employees. A striking instance was in the case of a ladies' tailor, a young man who had taken up business in a small city. He was formerly employed as a designer, and had the the direction of a growing staff. He said his salary was good and his employment fairly regular. Now he is struggling on from season to season. In the busy season the work comes in a rush, and for a time he takes in a fair amount of money, but most of it has to go for the payment of debts contracted in the slack season.

A number of those who had gone into business for themselves with little capital at the start, were prosperous and content, as in the case of some in dyeing and cleaning, dressmaking, or those who were running stores of their own. But it should be realized at the outset that in certain lines of industry as at present organized, there is little chance for a man of average ability without capital to reach the position of proprietor. The machinery is so expensive, and competition must be against firms with large capital.¹ On the other hand in such industries there are usually a few extremely good positions at the top for the fortunate ones who reach them. In calculating the chances of obtaining such positions, however, consideration must be given to the number of relatives of the members of the firm, who are likely to be given preference.

Some industries, as printing, dress-making, millinery, dyeing and cleaning lend themselves to the small business, which can be operated with small capital, and few employees.

IN WHAT WAYS ARE THE CONDITIONS GOOD AND IN WHAT WAYS BAD?

The following statistics from the Public Service Bulletin of the Province of Ontario² give some idea of the relative hazards from accidents in the various industries.

Table 6—Showing Fatal and Total Accidents in Ontario, by Industrial Groups, 1918.

Industry.	Fatal. (78)	Total (4,907)
Wearing Apparel .....	..	3
Leather	1	5
Conveyances, etc.	1	9
Processes in C.G. and Stone	2	7
Textiles	2	73
Transportation	2	75
Rubber	2	144
Woodworking Trades	3	67
Lumber	4	133
Unclassified	5	24
Shipbuilding	5	62
Paper and Paper Industries	6	307
Chemicals	11	79
M'fg and Prep. Food	13	39
Metal Trades	21	3,880

It will be observed from Table 6 that there were no fatal accidents in wearing apparel, and that considering the number engaged in the work, textiles made a very good showing. The proportion is fairly small in the leather industries. In considering the number in the manufacture and preparation of food, the large number employed must be taken into account.

Controllable Conditions. In a large proportion of occupations, however, the conditions are dependent on the enlightenment of the employers and employees in working together for good conditions. Proper lighting lessens eye strain; and ventilation, diseases of the lungs and nerves. Methods of carrying off moisture.

¹ Some conception of the tendency of industries this way may be obtained by reference to Appendix E.

² November, 1918.

lint and dust may be utilized respectively in bakeries, foundries and laundries; in cottons and other textiles; and in machine shops. The medical service, in many cases represented by one or more graduate nurses, and facilitated by some well equipped store or factory hospital; the occasional dental service; and the St. John Ambulance Organization have greatly improved conditions. Sanitary accommodation and facilities for washing and drinking vary with establishment.

Hours Office work undoubtedly has in the main the advantage of shorter hours of work than are found in the factory and store. The weekly hours of work in some manufacturing plants are shorter than those in the majority of stores.



A Store Hospital.

but a larger proportion of factories than of stores visited during the survey worked over 50 hours a week. It is also true that few stores open before 8 a.m., while more than half the factories reporting their time for beginning work, start before 8 a.m., and 36 per cent. begin at 7 a.m. On the other hand a weekly half holiday all the year round is much more common in factories than in stores, being as a matter of fact given in 59 per cent. of the firms interviewed—60 per cent. of the remainder give a half day during the summer. About one factory in ten arranges shorter hours for women than for men. Sometimes the difference is very slight, and women are very frequently found in industries which work long hours.

Posture.

Difficulties with regard to position can largely be overcome. Experiment has proved that sometimes even a series of machines may be tended by workers sitting on chair platforms which are mounted on ball-bearing

wheels running on tracks along the work benches. In certain biscuit and confectionery factories an effort is made to rest the girls by a variety in work, which involves a change in position. In stores, the influence of the management may be exerted to get girls to use their chairs when not busy. Rest periods in the middle of the morning and afternoon have been adopted for the women in at least some stores and factories. Rest rooms have been a boon to the women, but often do not contain a sufficient number of lounges. Individual lockers, as shown belonging to a large firm, greatly facilitate orderliness in the workers and are a great factor in the preservation of clothing.

The shortening of hours, which has taken place in certain factories and some stores, will have gone a long way in overcoming the difficulty of continuous



Employees Wearing-Apparel Lockers.

periods in one position. Lunch rooms are frequently provided, sometimes managed entirely by the employees. They have added greatly to the comfort of the workers. The manager of one well-lighted factory, a little distance out of town, said that he was sure he could not have kept his help but for the lunch room, as the factory was too far out of town. As it is, in the summer at noon hour, the neighborhood of the factory suggests a pleasure resort, with its groups of employees, sitting or walking or engaged in some sport.

Employment Department. One thing which is of vital importance to the welfare of the worker is the arrangement made by the firm for employment and discharge. The huge labour turnover with an estimated cost of placing a new worker at \$30 to \$100, has resulted in a number of cases in the establishment of

an employment management department or some similar office, as a distinct branch of the organization. The entire time and thought of such a department is given to the question of personnel which permits a thorough analysis of the characteristics of the man and the job. It also facilitates the transfer of employees from one department to another. This is desirable because it makes possible the placing of workers where they will be most useful and the retaining of workers once engaged. Misfits, involving the loss of a great deal of time and too frequent changing of positions, are in many cases due to lack of system on the part of the employer in the hiring of workers.

A striking illustration of this was afforded in the Toronto Branch of the Government Employment Bureau in 1917, when an order was given by one of the best firms in the city for three young women. As the qualifications demanded required a very good type of applicant, the initial wage of "\$9 or \$10" seemed small, but within a few days suitable girls were found who were willing to take the work as it seemed to offer permanence and a chance of promotion. Within a week or two all the girls had returned to the office for other work. One girl was particularly disappointed as she liked the work, but she could not afford to continue for \$8 as she had to help at home. Her commentary was—"One man hires you, another sets you to work, and someone else pays you, and you don't get what was promised." A few days later the application came again. The wage offered was \$9 a week. When the unfortunate experience of the girls previously sent was mentioned, the answer was "Oh well, \$8 or \$9." The present investigation has gone to prove that there is still much lack of systematized knowledge on the part of employers with regard to the conditions of employment, resulting in hardship to employees and a big labour turnover. Numbers of managers, quite above any suspicion of making false statements, have estimated wages paid in their firms higher than was later shown by the actual records on the wage sheets. Managers of firms on several occasions, when glancing at their wage sheets while being copied by investigators, expressed surprise to find that certain low wages were being paid. Table 7 shows the officials who actually do the hiring in the firms visited.

Table 7—Personnel of Officials Who Do the Hiring.

Manager	37.1%
Foreman	29.9%
Superintendent	19.6%
Employment Manager	3.6%
Others ¹	9.8%

In the smaller firms the employing is frequently nominally done by the manager of the firm, who has a great many things on his mind, and cannot always give the consecutive attention to the matter of employment which is required by the vital nature of the work.² In the case of large firms, unless there is an employment manager, the hiring is often done by the foreman, who has little time to make a study of the individual applicant. The employing is fairly often done by the superintendent, and in the case of women sometimes by the forewoman.

¹ This includes timekeeper, head of department, forelady, office, service secretary.

² "There can be no sound organization where questions affecting the working force are relegated to a subordinate or treated as a mere incident in business enterprise. The truth, fortunately recognized by an increasing number of important industrial leaders, is that the man-problem in organization is the really vital one. To slight it is to build on quicksand." *Hiring the Worker*. Kelly.

Discharging is left in the hands of foremen and forewomen more often than employing. This indiscriminate hiring and firing makes the position of a worker much less secure. He may be discharged for personal reasons unconnected with his work. Where a foreman desires to discharge a worker, or where a worker desires to leave, the employment department acts as a court of appeal and if adjustment is possible or transfer to another department this can be done.

Recreation. "The manager wants nothing but distraction at the end of the day, but we must be very careful about the leisure moments of workers who spend the whole day doing one job." So said Prof. Barker (formerly quoted), in discussing the textile industry, but the thought is equally applicable to other industries. "Something in the nature of general education should interest the leisure moments of such workers," he continued. In many cases some physical form of recreation is also needed to counteract the effects of continuance in the same position. One dress-maker remarked, "I don't care what I do in the evening, so long as I am moving about." Much might be done by the use of well equipped gymnasiums in certain kinds of factories for use in rest periods during work hours.

Not only is the question of recreation of vital importance from the point of view of the worker, but also in the interests of the employer. A worker of much experience in a large American women's employment office, told the writer that a very discouraging feature of her work was the fact that by the time the worker had become thoroughly proficient, she was so tired of the work that she was willing to make considerable sacrifices in order to have a change. Weariness of the present occupation¹ in all classes of workers was also very noticeable in the Women's Department of the Government Employment Bureau in Toronto, when women were being placed at munition work.

Workers, industries and nations are undoubtedly the losers, when people reach the point of complete distaste for their work. Much of this might be avoided if the mind were rested by recreation, firstly by a vacation with pay at a suitable time of the year, and secondly by recreation which would continue throughout the year. Sports of various kinds have been encouraged in some firms, by the provision of recreation grounds and a trained leader; by the utilization of opportunities provided by the city; and by handing over to an industrial council responsibility with regard to recreation and education.

When due and necessary consideration has been given to the questions of fitness for the work, adequate returns, and reasonably good conditions, important considerations in choosing a job are—its value to the community, and its value from the point of view of the development of the individual. There are few men and women who do not take a greater satisfaction in work when they realize that it is a contribution to the general good. One man in particular, a success in his own line, expressed regret that he could not feel that by fulfilling his daily work he was doing anybody any good. Work of an essential nature has the additional advantage of being less subject to sudden stoppage in the event of such contingencies as war or financial depression.

¹ This statement must not be understood to mean that the patriotic motive was lacking in these women or in many others who undoubtedly applied solely with a view to "doing their bit."

Work requiring planning and judgment in even a slight degree helps to develop the worker, but only in proportion as the attitude of the worker is right to the work. The importance to the individual of his own attitude towards his work, particularly in his early years, is voiced by E. W. Weaver in his "Profitable Vocations for Boys." Referring to the boy, he says:

"Much of his success will depend upon his attitude towards his work during his apprenticeship period. If he sees in it only a means of earning those things the value of which disappears with their possession, work will soon lose its attractions for him; but if work is regarded as an invitation to effort, a means for enlarging his capacities, and for achieving new and more important conquests, it ever becomes the introduction to a larger life."

APPENDIX A—1918-1919

The first table contains wage statistics of employees in Bread, Men's Custom Clothing, Women's Custom Clothing, Dyeing and Cleaning, Foundry and Machine Shop Products, and Slaughtering and Meat Packing, in addition to the workers in the tables which follow. Wages obtained by hourly rates appear only in the bulletins dealing with individual industries.

Weekly Wage	Total Industrial and Office Workers				Agricultural Implements				Biscuits and Confectionery				Boots and Shoes			
	Number		Cumulative Per cent.		Number		Cumulative Per cent.		Number		Cumulative Per cent.		Number		Cumulative Per cent.	
	Male 17,024	Fe-male 16,425	Male	Fe-male	Male 2,526	Fe-male 79	Male	Fe-male	Male 894	Fe-male 1,168	Male	Fe-male	Male 371	Fe-male 221	Male	Fe-male
Under \$5....	43	224	.8	1.4	.....	.....	.....	.....	29	.....	2.5	.....	.....	.....	.....	.....
\$5-6.....	76	579	.7	4.9	3	.....	.1	.....	55	.4	7.2	.....	5	4	1.3	1.8
6-7.....	262	1,014	2.1	11.1	4	.....	.3	1.3	97	133	3.5	18.6	5	13	2.7	7.7
7-8.....	287	1,145	3.9	18.	14	.....	.8	1.3	26	197	6.4	32.9	7	21	4.6	17.2
8-9.....	350	1,684	6.	28.3	8	3	1.1	5.1	50	219	12.	51.6	11	18	7.5	25.3
9-10.....	384	1,811	8.3	39.3	16	2	1.8	7.6	21	152	14.3	64.6	11	23	10.5	35.7
10-12.....	739	4,465	12.5	66.5	36	10	3.2	20.3	59	233	20.9	84.6	26	41	17.5	54.3
12-15.....	1,865	3,768	23.5	89.4	106	37	7.4	67.1	145	141	37.1	96.7	44	48	29.4	76.
15-20.....	4,655	1,413	50.8	98.	500	24	27.3	97.5	362	37	77.6	99.8	85	41	52.3	94.6
20-25.....	4,750	225	78.7	99.4	647	2	56.8	100.	130	2	92.2	100.	92	12	77.1	100.
25-30.....	2,081	66	90.9	99.8	727	.....	81.6	.....	48	.....	97.5	.....	48	.....	90.	.....
30-35.....	909	17	96.3	99.9	284	.....	92.8	.....	16	.....	99.3	.....	21	.....	95.7	.....
35 and over..	633	14	100.	100.	181	.....	100.	.....	6	.....	100.	.....	16	.....	100.	.....

Weekly Wage	Boxes and Bags, Paper				Carpets				Clothing, Men's Factory				Department Stores			
	Number		Cumulative Per cent.		Number		Cumulative Per cent.		Number		Cumulative Per cent.		Number		Cumulative Per cent.	
	Male 110	Fe-male 212	Male	Fe-male	Male 384	Fe-male 281	Male	Fe-male	Male 424	Fe-male 705	Male	Fe-male	Male 5,423	Fe-male 7,966	Male	Fe-male
Under \$5....	1	13	.9	6.1	6	5	1.6	1.8	.....	4	.....	.6	.....	5	.....	.1
\$5-6.....	2	11	2.7	11.3	2	9	2.1	5.	.....	13	.....	2.4	25	313	.5	4.
6-7.....	2	24	4.5	22.6	6	9	3.6	8.2	6	25	1.4	6.	114	487	2.6	10.1
7-8.....	2	30	6.4	36.8	2	17	4.2	14.2	5	28	2.6	9.9	129	406	4.9	15.2
8-9.....	6	59	11.8	64.6	7	16	6.	19.9	4	41	3.5	15.7	141	756	7.5	24.7
9-10.....	5	25	16.4	76.4	15	50	9.9	37.7	7	51	5.2	25.	163	953	10.5	36.6
10-12.....	5	35	20.9	92.9	26	78	17.2	65.5	6	107	6.6	46.7	268	2,697	15.5	70.5
12-15.....	12	12	38.2	98.6	43	53	28.4	84.3	22	320	11.6	92.1	864	1,543	31.4	89.9
15-20.....	49	3	83.7	100.	147	40	66.7	98.6	118	53	39.8	99.4	1,531	631	59.6	97.8
20-25.....	10	.....	91.8	.....	90	4	90.1	100.	229	4	97.6	100.	1,577	131	88.7	99.4
25-30.....	7	.....	98.2	.....	28	.....	97.4	.....	16	.....	98.4	.....	317	31	94.6	99.8
30-35.....	2	.....	100.	.....	6	.....	99.	.....	3	.....	98.1	.....	160	7	97.5	99.9
35 and over..	.....	.....	.....	.....	4	.....	100.	.....	8	.....	100.	.....	134	6	100.	100.

Weekly Wage	Dresses and Waists				Electrical Apparatus and Supplies				Furniture and Upholstery			
	Number		Cumulative Per cent.		Number		Cumulative Per cent.		Number		Cumulative Per cent.	
	Male 142	Fe-male 1,281	Male	Fe-male	Male 1,020	Fe-male 401	Male & Female 1,334	Male	Fe-male	Male & Female	Male 655	Fe-male 129
Under \$5....	.....	15	.....	1.2	2	6	8	.2	1.5	.4	.....	.....
\$5-6.....	.....	7	.....	1.2	1	5	7	.3	2.7	.8	.....	.....
6-7.....	.....	15	.....	2.9	6	10	23	.9	5.2	.....	.....	.....
7-8.....	3	23	2.1	4.7	11	51	78	2.	18.	6.	.....	.....
8-9.....	2	26	3.5	6.7	8	50	71	2.7	30.4	9.7	.....	.....
9-10.....	1	52	4.2	10.8	9	58	76	3.6	44.9	13.6	25	5
10-12.....	7	207	9.1	26.9	15	116	144	5.1	73.8	21.	28	15
12-15.....	8	631	14.8	76.2	60	88	180	11.	95.8	30.3	49	40
15-20.....	10	265	21.8	96.9	191	12	397	29.7	98.7	50.9	227	14
20-25.....	50	22	57.	98.6	321	4	434	61.2	99.7	73.3	209	2
25-30.....	43	11	87.3	99.5	207	1	275	81.5	100.	87.5	15	.....
30-35.....	11	5	95.1	99.8	127	.....	151	95.9	.....	95.3	.....	.....
35 and over..	7	2	100.	100.	62	.....	90	100.	.....	100.	10	.....

* Wages were copied from the wage sheets or other records of the firms. These, however, do not include foremen, superintendents, or any of the high managerial staff. Salaries were obtained in many cases from the firms with a view to showing the opportunities for promotion within the industry.

† In the weekly wage, the class, i.e., \$5-\$6, etc., includes the first figure and is up to but does not include the second figure.

‡ As a large number of workers in this industry were not differentiated as to sex, the total of all workers is given in the third column.

APPENDIX A—Continued

Weekly Wage	Harness and Saddlery*				Hosiery and Underwear				Laundry				Lithographing and Engraving			
	Number		Cumulative Per cent.		Number		Cumulative Per cent.		Number		Cumulative Per cent.		Number		Cumulative Per cent.	
	Male 232	Female 60	Male	Female	Male 573	Female 1,249	Male	Female	Male 73	Female 200	Male	Female	Male 417	Female 159	Male	Female
Under \$5....	2	4	.9	6.7	8	53	1.4	4.2	1	1	1.4	.5	17	6	4.1	3.8
\$5—6....	3	10	2.2	23.3	7	48	2.6	8.1	.....	1	1.4	1.	6	18	5.5	15.1
6—7....	1	7	2.7	35.	17	109	5.6	16.8	.....	19	1.4	10.5	9	12	7.7	22.6
7—8....	4	4	4.5	41.7	14	160	8.	29.6	2	77	4.1	49.	9	13	9.8	30.8
8—9....	5	8	6.7	55.	16	158	10.8	42.3	1	52	5.5	75.	9	23	12.	45.2
9—10....	4	8	8.5	68.3	18	149	14.	54.2	3	25	9.6	87.5	12	12	14.9	52.8
10—12....	14	6	14.9	78.3	79	263	27.7	75.3	1	16	11.	95.5	17	28	18.9	70.4
12—15....	28	10	27.5	95.	107	236	46.4	94.2	4	7	16.4	99.	34	23	27.1	84.9
15—20....	64	2	56.3	98.3	178	66	77.5	99.4	29	2	56.2	100.	76	7	45.3	89.3
20—25....	70	1	87.8	100.	94	6	93.9	99.9	22	.....	86.3	.....	58	3	59.2	91.2
25—30....	25	.....	99.1	.....	22	1	97.7	100.	9	.....	98.6	.....	54	9	72.1	96.9
30—35....	2	.....	100.	.....	10	.....	99.5	.....	.....	.....	98.6	.....	53	.....	84.9	96.9
35 and over..	.....	.....	.....	.....	3	.....	100.	.....	1	.....	100.	.....	63	5	100.	100.

Weekly Wage	Office, in manufacturing plants				Printing and Bookbinding				Suits and Cloaks				Woollen Goods			
	Number		Cumulative Per cent.		Number		Cumulative Per cent.		Number		Cumulative Per cent.		Number		Cumulative Per cent.	
	Male 703	Female 453	Male	Female	Male 573	Female 369	Male	Female	Male 540	Female 530	Male	Female	Male 424	Female 388	Male	Female
Under \$5....	3	.....	.4	.....	12	35	2.1	9.5	2	.....	.4	.....	5	11	1.2	2.8
\$5—6....	5	3	1.1	.7	8	28	3.1	17.1	.....	.....	.4	.....	1	17	1.4	7.2
6—7....	12	11	2.8	3.1	14	30	5.6	25.2	.....	5	.4	.9	6	31	2.8	15.2
7—8....	17	12	5.3	5.7	13	34	7.8	34.4	.....	4	.6	1.7	1	28	3.1	22.4
8—9....	32	27	9.8	11.7	11	56	9.8	49.6	1	21	1.3	5.6	5	58	4.3	37.4
9—10....	22	24	12.9	17.	6	35	10.8	59.1	2	31	1.7	1.5	18	67	8.5	54.6
10—12....	37	90	18.2	36.9	36	106	17.1	87.8	9	106	3.3	31.5	39	84	17.7	76.3
12—15....	83	151	30.	70.2	27	80	21.8	95.9	20	219	7.	72.8	102	76	41.7	95.9
15—20....	183	114	56.	95.4	96	11	38.6	98.9	109	116	27.2	94.7	147	15	76.4	99.7
20—25....	176	16	81.1	98.9	202	3	73.8	99.7	174	20	59.4	98.5	79	1	95.	100.
25—30....	68	4	90.7	99.8	90	1	89.5	100.	128	7	83.1	99.8	13	.....	98.1	.....
30—35....	38	.....	96.1	99.8	23	.....	94.4	.....	53	1	32.9	100.	4	.....	99.1	.....
35 and over..	27	1	100.	100.	32	.....	100.	.....	38	.....	100.	.....	4	.....	100	.....

* Includes some workers on suit cases.

APPENDIX B*—1917

Statistics in this and the following appendices are based on figures supplied by the Dominion Statistician.

REGULARITY OF EMPLOYMENT IN MANUFACTURING INDUSTRIES.

Industry.	Male	Female
Agricultural implements	94.8%	88.1%
Automobiles	93.6	62.7
Axes and Tools:		
Cutlery and edge tools	91.2	88.7
Tools and implements	94.4	70.6
Boilers and engines	84.4	48.3
Boots and shoes	88.3	85.7
Boxes and bags, paper	96.	98.
Boxes, wooden	93.2	60.3
Brass castings	82.2	65.8
Bread, biscuits and confectionery	93.2	88.4
Carpets	88.7	80.2
Chewing gum	75.2	85.8
Clothing, men's custom	95.7	92.5
Clothing, men's factory	97.8	94.9
Clothing, women's custom	79.4	85.1
Clothing, women's factory	91.7	94.
Cottons	68.5	95.6
Dyeing and cleaning	96.3	95.
Electrical apparatus and supplies	78.4	89.4
Foundry and machine shop products	95.7	86.6
Furniture and upholstered goods	92.8	86.1
Gloves and mittens	91.4	79.4
Harness and saddlery	96.3	82.
Hats, caps and furs	90.9	90.8
Hosiery and knit goods	87.1	92.
Iron and steel products	92.8	90.1
Jewelry and repairs	98.2	91.8
Lithographing and engraving	93.7	87.2
Paper	95.1	95.
Plumbing and tinsmithing	88.8	91.1
Pulp and paper	88.2	89.
Printing and bookbinding	97.4	94.6
Printing and publishing	97.2	93.4
Slaughtering	82.3	80.8
Slaughtering and meat packing	93.8	82.1
Soap	91.8	88.
Stationery goods	96.1	95.6
Steel furnaces and rolling mills	93.9	67.7
Tobacco, cigars and cigarettes	68.6	62.8
Wire	92.9	88.8
Woollen goods	95.7	94.8
Woollen yarn	89.8	85.7

* This represents the yearly average based upon the highest monthly employment.

APPENDIX C—1917

AVERAGE YEARLY SALARIES AND WAGES.

Industry.	Officers, Superintend- ents and Managers	Clerks, Stenographers and other Salaried Officers	Wage Earners
	\$	\$	\$
Agricultural implements	3,256	885	871
Automobiles	4,055	1,233	970
Axes and Tools:			
Cutlery and edge tools	1,348	920	874
Tools and implements	3,311	872	671
Boilers and engines	3,679	1,064	1,127
Boots and shoes	2,503	944	615
Boxes and bags, paper	2,421	1,274	495
Boxes, wooden	1,636	806	578
Brass castings	2,530	933	410
Bread, biscuits and confectionery	1,718	780	778
Carpets	2,676	1,033	631
Chewing gum	2,396	1,039	548
Clothing, men's custom	1,494	829	576
Clothing, men's factory	2,905	965	670
Clothing, women's custom	917	736	476
Clothing, women's factory	4,920	1,640	626
Cottons	3,932	913	505
Dyeing and cleaning	1,549	632	624
Electrical apparatus and supplies	3,047	1,054	758
Foundry and machine shop products	2,263	906	905
Furniture and upholstered goods	1,911	775	610
Gloves and mittens	1,582	583	505
Harness and saddlery	1,602	896	657
Hats, caps and furs	1,897	662	666
Hosiery and knit goods	2,244	743	504
Iron and steel products	3,029	1,096	906
Jewelry and repairs	1,695	653	682
Lithographing and engraving	2,523	966	766
Paper	2,743	1,005	727
Plumbing and tinsmithing	1,463	727	745
Printing and bookbinding	2,277	953	707
Printing and publishing	1,943	851	772
Pulp and paper	3,812	1,053	901
Slaughtering and meat packing	3,459	922	876
Slaughtering, not including meat packing	3,470	890	937
Soap	2,209	1,366	590
Stationery goods	2,592	852	575
Steel furnaces and rolling mills	2,775	1,187	1,370
Tobacco, cigars and cigarettes	1,648	1,236	602
Wire	1,737	1,076	714
Woollen goods	2,277	1,916	757
Woollen yarn	2,319	713	653

APPENDIX D—1917

PROPORTION OF OFFICERS, SUPERINTENDENTS AND MANAGERS TO OTHER
EMPLOYEES IN 1917.

Industry.	Officers, Superinten- dents and Managers	Clerks, Stenographers and other Salaried Officers	Wage Earners
Agricultural implements	1.4%	8.1%	90.5%
Automobiles	1.6	13.7	84.7
Axes and Tools:			
Cutlery and edge tools	6.6	10.2	83.2
Tools and implements	4.5	9.3	86.2
Boilers and engines	1.7	10.1	88.2
Boots and shoes	3.9	7.2	88.9
Boxes and bags, paper	3.6	7.1	89.3
Boxes, wooden	2.3	2.3	95.4
Brass castings	1.4	3.1	95.5
Bread, biscuits and confectionery	2.9	7.8	89.3
Carpets	2.7	6.9	90.4
Chewing gum	4.3	21.	74.7
Clothing, men's custom	5.2	6.	88.8
Clothing, men's factory	3.8	13.9	82.3
Clothing, women's custom	5.8	3.3	90.9
Clothing, women's factory	2.1	7.7	90.2
Cottons .....	.6	1.4	98.
Dyeing and cleaning	3.1	3.5	93.4
Electrical apparatus and supplies	1.1	13.	85.
Foundry and machine shop products	3.1	7.7	89.2
Furniture and upholstered goods	3.7	6.4	89.9
Gloves and mittens	3.5	7.	89.5
Harness and saddlery	6.	8.6	85.4
Hats, caps and furs	5.5	15.4	79.1
Hosiery and knit goods	1.8	3.1	95.1
Iron and steel products	1.9	4.8	93.3
Jewelry and repairs	6.4	11.6	82.
Lithographing and engraving	5.	12.3	82.7
Paper	3.7	4.6	91.7
Plumbing and tinsmithing	5.8	8.7	85.5
Printing and bookbinding	4.4	13.4	82.2
Printing and publishing	6.2	16.4	77.4
Pulp and paper	1.3	4.9	93.8
Slaughtering and meat packing	2.1	16.7	81.2
Slaughtering, not including meat packing ...	3.6	17.8	78.6
Soap	3.9	12.4	83.7
Stationery goods	4.7	14.5	80.8
Steel furnaces and rolling mills	1.2	2.8	96.
Tobacco, cigars and cigarettes	2.5	3.4	94.1
Wire	3.4	11.8	84.8
Woollen goods	2.2	2.6	95.2
Woollen yarn	1.6	3.1	95.3

APPENDIX E—1917

CAPITAL INVESTED AND NUMBER OF EMPLOYEES.

Industry.	Average capital	Average number of employees on salaries and wages
Agricultural implements	1,174,298	171
Automobiles	2,562,987	538
Axes and Tools:		
Cutlery and edge tools	48,958	23
Tools and implements	191,438	42
Boilers and engines	618,310	212
Boots and shoes	115,747	52
Boxes and bags, paper	107,215	51
Boxes, wooden	60,318	27
Brass castings	147,458	126
Bread, biscuits and confectionery	19,644	10
Carpets	506,960	110
Chewing gum	478,837	66
Clothing, men's custom	5,461	4
Clothing, men's factory	137,482	56
Clothing, women's custom	3,094	3
Clothing, women's factory	152,345	105
Cottons	927,901	305
Dyeing and cleaning	18,975	21
Electrical apparatus and supplies	507,869	147
Foundry and machine shop products	134,504	45
Furniture and upholstered goods	115,765	41
Gloves and mittens	45,943	29
Harness and saddlery	11,920	3
Hats, caps and furs	49,339	24
Hosiery	282,962	116
Iron and steel products	527,938	156
Jewelry and repairs	9,513	4
Lithographing and engraving	106,049	36
Paper	255,347	55
Plumbing and tinsmithing	12,816	6
Printing and bookbinding	39,802	18
Printing and publishing	34,606	13
Pulp and paper	4,229,129	430
Slaughtering and meat packing	1,495,546	190
Slaughtering, not including meat packing	2,398,844	169
Soap	419,075	55
Stationery goods	104,092	41
Steel furnaces and rolling mills	3,127,303	525
Tobacco, cigars and cigarettes	37,269	33
Wire	222,305	56
Woollen goods	209,604	70
Woollen yarn	462,829	82

APPENDIX F

MANUFACTURING INDUSTRIES EMPLOYING OVER 1,000 WORKERS IN 1915.

Industry.	Totals	Male	Female
1 Log products	13,705	13,594	111
2 Foundry and machine shops products	12,450	11,938	512
3 Clothing, women's factory	8,521	3,142	5,379
4 Iron and steel products	7,607	7,197	410
5 Bread, biscuits and confectionery	7,064	4,722	2,342
6 Smelting	6,603	6,551	52
7 Hosiery and knit goods	6,416	2,329	4,087
8 Agricultural implements	5,891	5,731	160
9 Furniture and upholstered goods	5,534	5,280	254
10 Electrical apparatus and supplies	5,157	4,619	538
11 Printing and publishing	5,086	4,016	1,070
12 Paper	4,277	3,968	309
13 Printing and bookbinding	4,038	2,842	1,196
14 Rubber and elastic goods	3,963	2,975	988
15 Car repairs	3,828	3,824	4
16 Boots and shoes	3,790	2,565	1,225
17 Automobiles	3,778	3,576	202
18 Flour and grist mill products	3,673	3,237	436
19 Slaughtering and meat packing	3,470	3,202	268
20 Electric light and power	3,360	3,196	164
21 Lumber products	3,277	3,188	89
22 Clothing, men's factory	3,242	1,857	1,385
23 Boilers and engines	2,960	2,895	65
24 Woollen goods	2,663	1,532	1,131
25 Cottons	2,546	1,250	1,296
26 Leather, tanned, curried and finished	2,544	2,452	92
27 Housebuilding	2,479	2,460	19
28 Plumbing and tinsmithing	2,256	2,096	160
29 Tobacco, cigars and cigarettes	2,182	1,401	781
30 Wood pulp, chemical and mechanical	2,002	1,987	15
31 Cars and car works	1,989	1,961	28
32 Carriages and wagons	1,973	1,894	79
33 Furnishing goods, men's	1,926	413	1,513
34 Butter and cheese	1,865	1,711	154
35 Clothing, men's custom	1,857	920	937
36 Boxes and bags, paper	1,748	855	893
37 Dyeing and cleaning	1,595	600	995
38 Cement products	1,405	1,377	28
39 Oils	1,330	1,346	44
40 Musical instruments	1,365	1,330	35
41 Hats, caps and furs	1,351	831	520
42 Fruit and vegetable canning	1,346	742	604
43 Clothing, women's custom	1,341	302	1,039
44 Lithographing and engraving	1,322	1,078	244
45 Gas, lighting and heating	1,262	1,201	61
46 Brick, tile and pottery	1,242	1,229	13
47 Stationery goods	1,240	714	526
48 Automobiles, repairs and accessories	1,194	1,125	69
49 Liquors, malt	1,145	1,126	19
50 Explosives	1,131	1,082	49
51 Ships and ship repairs	1,109	1,094	15
52 Harness and saddlery	1,075	945	130

APPENDIX G—1917

PERCENTAGE OF CHILDREN UNDER 16 YEARS OF AGE EMPLOYED IN
SPECIFIED INDUSTRIES.

Agricultural implements	2.4%	Gloves and mittens	3. %
Automobiles .....	.5	Harness and saddlery	2.7
Axes and Tools:		Hats, caps and furs	3.1
Cutlery and edge tools	3.7	Hosiery and knit goods	6.
Tools and implements .....	.5	Iron and steel products	2.9
Boilers and engines .....	.5	Jewelry and repairs	4.4
Boots and shoes	5.7	Lithographing and engraving	3.
Boxes and bags, paper	12.5	Paper	1.3
Boxes, wooden	8.4	Plumbing and tinsmithing	2.3
Brass castings .....	.9	Printing and bookbinding	3.2
Bread, biscuits and confectionery.	6.7	Printing and publishing	12.2
Carpets	3.9	Pulp and paper .....	.1
Chewing gum	16.	Slaughtering and meat packing ..	.5
Clothing, men's custom	1.2	Slaughtering, not including meat	
Clothing, men's factory	2.2	packing.....	2.7
Clothing, women's custom	4.	Soap	8.1
Clothing, women's factory	1.4	Stationery goods	4.
Cottons	15.9	Steel furnace and rolling mills ..	.1
Dyeing and cleaning	2.3	Tobacco, cigars and cigarettes ...	.7
Electrical apparatus and supplies.	1.9	Wire	7.7
Foundry and machine shop products	.8	Woollen goods	9.4
Furniture and upholstered goods..	3.5	Woollen yarns	25.1

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